





**symposium on Principles of database systems****Publisher:** ACM PressFull text available:  pdf(246.23 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We study the complexity bound of validating XML documents, viewed as labeled unranked ordered trees, against various typing systems like DTDs, XML schemas, tree automata ... We also consider query evaluation complexities for various fragments of XPath. For both problems, validation and query evaluation, we consider data and combined complexity bounds.

**4 DTD inference for views of XML data**

Yannis Papakonstantinou, Victor Vianu

May 2000 **Proceedings of the nineteenth ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems****Publisher:** ACM PressFull text available:  pdf(347.61 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We study the inference of Data Type Definitions (DTDs) for views of XML data, using an abstraction that focuses on document content structure. The views are defined by a query language that produces a list of documents selected from one or more input sources. The selection conditions involve vertical and horizontal navigation, thus querying explicitly the order present in input documents. We point several strong limitations in the descriptive ability of current DTDs and the need for extendi ...

**5 Data integration and sharing I: Exchanging intensional XML data**

Tova Milo, Serge Abiteboul, Bernd Amann, Omar Benjelloun, Fred Dang Ngoc

June 2003 **Proceedings of the 2003 ACM SIGMOD international conference on Management of data****Publisher:** ACM PressFull text available:  pdf(237.21 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

XML is becoming the universal format for data exchange between applications. Recently, the emergence of Web services as standard means of publishing and accessing data on the Web introduced a new class of XML documents, which we call *intensional* documents. These are XML documents where some of the data is given explicitly while other parts are defined only intensionally by means of embedded calls to Web services. When such documents are exchanged between applications, one has the choice to ...

**6 Re-engineering structures from Web documents**

Chuang-Hue Moh, Ee-Peng Lim, Wee-Keong Ng

June 2000 **Proceedings of the fifth ACM conference on Digital libraries****Publisher:** ACM PressFull text available:  pdf(180.95 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

To realize a wide range of applications (including digital libraries) on the Web, a more structured way of accessing the Web is required and such requirement can be facilitated by the use of XML standard. In this paper, we propose a general framework for reverse engineering (or re-engineering) the underlying structures i.e., the DTD from a collection of similarly structured XML documents when they share some common but unknown DTDs. The essential data structures and algorithms for ...

**Keywords:** Web information discovery, XML

## 7 Views in a large-scale XML repository

Vincent Aguilera, Sophie Cluet, Tova Milo, Pierangelo Veltri, Dan Vodislav

November 2002 **The VLDB Journal — The International Journal on Very Large Data**

**Bases**, Volume 11 Issue 3


**Publisher:** Springer-Verlag New York, Inc.

Full text available:  [pdf\(241.60 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

We are interested in defining and querying views in a huge and highly heterogeneous XML repository (Web scale). In this context, view definitions are very large, involving lots of sources, and there is no apparent limitation to their size. This raises interesting problems that we address in the paper: (i) how to distribute views over several machines without having a negative impact on the query translation process; (ii) how to quickly select the relevant part of a view given a query; (iii) how ...

**Keywords:** Query evaluation, Semantic integration, Views, Warehouse, XML

## 8 Session 4: Web service applications: Authenticating distributed data using Web services and XML signatures

 Daniel J. Polivy, Roberto Tamassia

November 2002 **Proceedings of the 2002 ACM workshop on XML security**


**Publisher:** ACM Press

Full text available:  [pdf\(164.09 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

As the need for digital data becomes more ubiquitous, so does the need to provide efficient mechanisms for distributing and verifying the authenticity of that data. We present an architecture for authenticating responses to queries from untrusted mirrors of authenticated dictionaries using Web Services and XML Signatures. We also describe an implementation of our scheme for the Secure Transaction Management System.

**Keywords:** Web services, XML, authentication, digital signatures

## 9 Advanced XML technologies and applications: Consistently updating XML documents using incremental constraint check queries

 Bintou Kane, Hong Su, Elke A. Rundensteiner

November 2002 **Proceedings of the 4th international workshop on Web information and data management**


**Publisher:** ACM Press

Full text available:  [pdf\(399.07 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

When updating a valid XML document, an efficient yet light-weight mechanism is needed to determine if the up-date would invalidate the document. Towards this goal, we developed a framework called SAXE, we first analyzed the constraints expressed in XML schema specifications and establish constraint rules that must be observed for an XML document to conform to a given XML Schema. We then classify the rules as relevant for a given update case, that is, we show the minimal set of rules that must be ...

**Keywords:** XML schema, XML update, XQuery

## 10 XDuCE: A statically typed XML processing language

 Haruo Hosoya, Benjamin C. Pierce

May 2003 **ACM Transactions on Internet Technology (TOIT)**, Volume 3 Issue 2

**Publisher:** ACM Press

Full text available:  [pdf\(242.48 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index](#)

[terms](#), [review](#)

XDuce is a statically typed programming language for XML processing. Its basic data values are XML documents, and its types (so-called *regular expression types*) directly correspond to document schemas. XDuce also provides a flexible form of *regular expression pattern matching*, integrating conditional branching, tag checking, and subtree extraction, as well as dynamic typechecking. We survey the principles of XDuce's design, develop examples illustrating its key features, describe i ...

**Keywords:** Type systems, XML, subtyping, tree automata

# 11 [Research sessions 2 and 3: information processing on WWW and XML: Validating streaming XML documents](#)



Luc Segoufin, Victor Vianu

June 2002 **Proceedings of the twenty-first ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems**

**Publisher:** ACM Press

Full text available: [pdf\(243.31 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper investigates the on-line validation of streaming XML documents with respect to a DTD, under memory constraints. We first consider validation using constant memory, formalized by a finite-state automaton (FSA). We examine two flavors of the problem, depending on whether or not the XML document is assumed to be well-formed. The main results of the paper provide conditions on the DTDs under which validation of either flavor can be done using an FSA. For DTDs that cannot ...

# 12 [Technical correspondence: Efficient formalism-only parsing of XML/HTML using the \$\mathcal{S}\$ -calculus](#)



Quinn Tyler Jackson

February 2003 **ACM SIGPLAN Notices**, Volume 38 Issue 2

**Publisher:** ACM Press

Full text available: [pdf\(2.57 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

Traditionally, correct parsing of XML and HTML has been littered with semantic hacks in the parsing code to deal with the oddities of these languages, since HTML accepts unbalanced tags and tags that do not match in case, but XML is less forgiving. The detection of well-formedness of XML documents has, to date, required semantic analysis outside of the grammar specification. We present a grammar-only (HT(X)ML parser which, upon detecting that it is parsing XML, modifies itself dynamically in ord ...

# 13 [Extending Java for high-level Web service construction](#)



Aske Simon Christensen, Anders Møller, Michael I. Schwartzbach

November 2003 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 25 Issue 6

**Publisher:** ACM Press

Full text available: [pdf\(947.02 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We incorporate innovations from the <bigwig> project into the Java language to provide high-level features for Web service programming. The resulting language, Jwig, contains an advanced session model and a flexible mechanism for dynamic construction of XML documents, in particular XHTML. To support program development we provide a suite of program analyses that at compile time verify for a given program that no runtime errors can occur while building documents or receiving form input, and ...

**Keywords:** Interactive Web services, XML, data-flow analysis

14 Data integration and sharing I: Capturing both types and constraints in data integration

Michael Benedikt, Chee-Yong Chan, Wenfei Fan, Juliana Freire, Rajeev Rastogi

June 2003 **Proceedings of the 2003 ACM SIGMOD international conference on Management of data****Publisher:** ACM PressFull text available: pdf(690.62 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We propose a framework for integrating data from multiple relational sources into an XML document that both conforms to a given DTD and satisfies predefined XML constraints. The framework is based on a specification language, AIG, that extends a DTD by (1) associating element types with semantic attributes (inherited and synthesized, inspired by the corresponding notions from Attribute Grammars), (2) computing these attributes via parameterized SQL queries over multiple data sources, and (3) inc ...

15 Session 1: encryption: A stream-based implementation of XML encryption

Takeshi Imamura, Andy Clark, Hiroshi Maruyama

November 2002 **Proceedings of the 2002 ACM workshop on XML security****Publisher:** ACM PressFull text available: pdf(93.90 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

W3C has been working on the standardization of XML Encryption and released its specification as a W3C Proposed Recommendation in 2002. There are several implementations of the specification, all of which are implemented using DOM. However, it is commonly accepted that DOM has higher costs in time and space than other APIs. Also, even if SAX is used, with this kind of API, it is impossible to parse decrypted data both efficiently and correctly. Therefore, we thought of using the Xerces Native Int ...

**Keywords:** XML, encryption, stream-based processing16 CDuce: an XML-centric general-purpose language

Véronique Benzaken, Giuseppe Castagna, Alain Frisch

August 2003 **ACM SIGPLAN Notices , Proceedings of the eighth ACM SIGPLAN international conference on Functional programming ICFP '03**, Volume 38 Issue 9**Publisher:** ACM PressFull text available: pdf(242.16 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

*We present the functional language CDuce, discuss some design issues, and show its adequacy for working with XML documents. Distinctive features of CDuce are a powerful pattern matching, first class functions, overloaded functions, a very rich type system (arrows, sequences, pairs, records, intersections, unions, differences), precise type inference for patterns and error localization, and a natural interpretation of types as sets of values. We also outline some important implementation issue ...*


**Keywords:** CDuce, XML, XML-processing, type systems17 Regular expression types for XML

Haruo Hosoya, Jérôme Vouillon, Benjamin C. Pierce

September 2000 **ACM SIGPLAN Notices , Proceedings of the fifth ACM SIGPLAN international conference on Functional programming ICFP '00**, Volume

35 Issue 9

Publisher: ACM Press

Full text available:  pdf(575.20 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We propose *regular expression types* as a foundation for XML processing languages. Regular expression types are a natural generalization of Document Type Definitions (DTDs), describing structures in XML documents using regular expression operators (i.e., \*, ?, |, etc.) and supporting a simple but powerful notion of *subtyping*. The decision problem for the subtype relation is EXPTIME-hard, but it can be checked quite efficiently in many cases of practical interest. The subtyping algorithm ...

## 18 [Representing and querying XML with incomplete information](#)



Serge Abiteboul, Luc Segoufin, Victor Vianu

May 2001 **Proceedings of the twentieth ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems**

Publisher: ACM Press

Full text available:  pdf(226.27 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We study the representation and querying of XML with incomplete information. We consider a simple model for XML data and their DTDs, a very simple query language, and a representation system for incomplete information in the spirit of the representations systems developed by Imielinski and Lipski for relational databases. In the scenario we consider, the incomplete information about an XML document is continuously enriched by successive queries to the document. We show that our representation ...


## 19 [Document querying and transformation: Lazy XSL transformations](#)



Steffen Schott, Markus L. Noga

November 2003 **Proceedings of the 2003 ACM symposium on Document engineering**

Publisher: ACM Press

Full text available:  pdf(335.83 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We introduce a lazy XSLT interpreter that provides random access to the transformation result. This allows efficient pipelining of transformation sequences. Nodes of the result tree are computed only upon initial access. As these computations have limited fan-in, sparse output coverage propagates backwards through the pipeline. In comparative measurements with traditional eager implementations, our approach is on par for complete coverage and excels as coverage becomes sparser. In contrast to eager ...


## 20 [XML with data values: typechecking revisited](#)



Noga Alon, Tova Milo, Frank Neven, Dan Suciu, Victor Vianu

May 2001 **Proceedings of the twentieth ACM SIGMOD-SIGACT-SIGART symposium on Principles of database systems**

Publisher: ACM Press

Full text available:  pdf(264.17 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We investigate the *type checking* problem for XML queries: statically verifying that every answer to a query conforms to a given output DTD, for inputs satisfying a given input DTD. This problem had been studied by a subset of the authors in a simplified framework that captured the structure of XML documents but ignored data values. We revisit here the type checking problem in the more realistic case when data values are present in documents and tested by queries. In this extended frame ...

Results 1 - 20 of 51

Result page: [1](#) [2](#) [3](#) [next](#)

The ACM Portal is published by the Association for Computing Machinery. Copyright © 2006 ACM, Inc.

[Terms of Usage](#) [Privacy Policy](#) [Code of Ethics](#) [Contact Us](#)

Useful downloads:  [Adobe Acrobat](#)  [QuickTime](#)  [Windows Media Player](#)  [Real Player](#)